

Listing of Claims:

1. (canceled)

2. (canceled)

3. (canceled)

4. (currently amended) A process for manufacturing yarn of animal collagen fiber comprising ~~the following steps:~~

(1) choosing tanned leathers as raw materials;

(2) loosening the tanned leathers materials to get collagen fibers,~~, wherein assorting the collagen fibers, blending the collagen fibers with textile fibers, carding, drawing and twisting the blended collage and textile fibers, the~~ tanned leathers are loosened by a reciprocating liquid opener, which ~~having has~~ a container, ~~and at least a beater and liquid,~~ wherein the liquid includes comprises water and at least one substance ~~being~~ added to the water ~~selected from comprising~~ 0.2-2 percent (by weight of water) washing agent, 1-10 percent (by weight of water) lipid or product thereof, 0.2-1.5 percent (by weight of water) penetrating agent and 0.03-0.5 percent (by weight of water) basic substances~~, and said the liquid makes expands the tanned leather materials; expanding;~~

(3) beating the tanned leather materials by the said beater, ~~makes~~ adhesive substances of fiber matrix among the collagen fibers are beaten to become lubricating agent; ~~under repeated beating the tanned leather materials.~~

(4) assorting the collagen fibers;

(5) blending the collagen fibers with textile fibers;

(6) carding, drawing and twisting the blended collagen and textile fibers.

5. (previously amended) The process of claim 4, wherein the tanned leather materials are made by following steps: choosing rawhide materials, liming, washing with water, deliming, tanning and softening, dehydrating, loosening fibers, assorting, blending, carding, drawing, and twisting, wherein acid protease is used for deliming, and the pH value in the solution is controlled between 3 and 6.

6. (canceled)

7. (currently amended) The process of claim 4, wherein the assorting has steps including first separating the loosened dispersing collagen fibers ~~are separated by~~ wind, distributing longer ~~fibers are distributed~~ into a different zone from that of the shorter fibers by function of airflow, second assorting according to the length of the fibers.

8. (previously amended) The process of claim 4, wherein in the blend step a multi-layer cotton mixing machine is used for blending the collagen fibers and textile fibers.

9. (currently amended) The process of claim 4, wherein in the carding step a carding machine to make the ~~bunchy~~ collagen fibers and textile fibers ~~form as~~ continuous fiber assemble with a particular linear density which is homogeneously blended and arrayed orderly in longitudinal direction.

10. (previously presented) The process of claim 4, wherein in the drawing step, a drawing machine is used to draw and level fibers one to three times, each fiber is continuously

extended to achieve the object for improving the uniformity of the fibers.

11. (previously amended) The process of claim 4, wherein in the twisting according to diameter and length of the collagen fibers and requirements of spinning yarns select correct roller, abrasion, ring spindle and process for spinning yarns to twist the collagen fibers and textile fibers to form yarns.

12. (previously presented) The process of claim 5, wherein the liming step uses calcium hydroxide as the primary ingredient, adding 1--3 percent(weight of rawhide) sodium sulfate and 0.1-0.5percent sodium hydroxide, water is 1.5-2 times that of the rawhide, the temperature for the liming solution is at 30-50 centigrade, and the time for soaking is 2-24 hours.

13. (previously presented) The process of claim 5, wherein for the washing step saponified mixtures are cleaned by ambient water at 30-40 centigrade, followed by washing with ambient water one to two times to make the pH value between 6.5-8.

14. (previously presented) The process of claim 5, wherein for the deliming step, adding 2-3percent (by weight of hide) ammonium sulfate, 0.2—0.5 percent protease and 1-2 times of water, soaking alternated with rolling at pH value between 3 and 6, and at the temperature between 35 and 40 centigrade for 1- 2 hours to removing basic ions in hide and simultaneously further hydrolyze the fiber matrix of rawhide, fat and non-fiber protein, then the impurities are removed with water, for the hide with furs, 3-4 percent (by

weight of hide) alkali sulphide including 10-15 percent lime paste , 1-2 percent sodium hydroxide and 1 -2 times of water, is added before liming, the furs are taken off from the hide when dipping for 2-16 hours, and then removed by washing.

15. (previously amended) The process of claim 5, wherein in the tanning and softening step, method of chrome tanning or plant tanning or organic tanning or mineral tanning is performed in the opener to make the hide be torn to and fro while tanning, so that the collagen fibers are basically loosened after tanned, the resulting loosened collagen fibers are softened by emulsifiable solution and lipid to prevent from cohesion after dehydration.

16. (previously presented) The process of claim 5, wherein a wringing machine is used to make water content between 20-30 percent.

17. (previously presented) The process of claim 5, wherein for the Loosing fibers step using a trapeziform opener or a gill box rotary opener or a cutting machine with three cylinders.

18. (canceled)

19. (canceled)

20. (canceled)

21. (currently amended) A process for manufacturing yarn of animal collagen fiber from hides comprising ~~the following~~ steps:

(1) choosing animal's skins as raw materials, + tanning the animal's skins to become tanned leathers; thereafter following the process for manufacturing yarn of animal collagen fiber from hides of claim 4 except the first step of choosing tanned leathers as raw materials.

(2) loosing the tanned leathers to get collagen fibers, wherein the tanned leathers are loosened by a reciprocating liquid opener, which has a container, a beater and liquid, wherein the liquid comprises water and at least one substance added to the water comprising 0.2-2 percent (by weight of water) washing agent, 1-10 percent (by weight of water) lipid or product thereof, 0.2-1.5 percent (by weight of water) penetrating agent and 0.03-0.5 percent (by weight of water) basic substances, and said liquid expands the tanned leather materials;

(3) beating the tanned leather materials by said beater, adhesive substances of fiber matrix among the collagen fibers are beaten to become lubricating agent;

(4) assorting the collagen fibers;

(5) blending the collagen fibers with textile fibers;

(6) carding, drawing and twisting the blended collagen and textile fibers.